EVALUATION OF THE HIGH TEMPERATURE SOILD OXIDE CELLS USING $La_{0.1}Sr_{0.9}Co_{0.8}Fe_{0.2}O_{3-\delta}$

Jaewoon Hong, School of Materials Science and Engineering, Chonnam National University
hjw01067909283@gmail.com
Yeon Namgung, School of Materials Science and Engineering, Chonnam National University
In-Ho Kim, School of Materials Science and Engineering, Chonnam National University
Sun-Ju Song, School of Materials Science and Engineering, Chonnam National University

Key Words: Electrodes, Thermochemical water splitting

The performance of the SOCs using $La_{0.1}Sr_{0.9}Co_{0.8}Fe_{0.2}O_{3-\delta}$ (LSCF1982) was characterized by I-V measurement and electrochemical impedance spectroscopy (EIS). The distribution function of relaxation times of EIS was used to analyze the polarization resistance of the cells. The fitting was performed using the appropriate equivalent circuit through DRT analysis. Furthermore, we co-electrolyzed CO_2 and H_2O to obtain H_2 / CO syngas as well as water splitting. The composition of syngas was investigated by gas chromatography and controlled by varying in-let gas composition.